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REVIEWS AND ABSTRACTS OF LITERATURE

Bulletin de la société française de philosophie. March, 1905. 5 Année, No. 3. Esprit et matière. Thèse: M. Binet. Discussion: MM. Bergson, Darlu, J. Lachelier, Pécaut, Rauh.

M. Binet proposes to define matter and mind, and to present a theory of the connection between them. Reality exhibits two fundamental sorts of elements, sensations and the consciousness which accompanies sensations. The distinction between the physical and the psychical is replaced by the distinction between the object of consciousness and the act of consciousness. The sensational or content element which we find in images, emotions, effort, etc., is not to be regarded as the means by which we know the external world, it is the external world itself. Our sensations are the physical world. Mind is the activity of consciousness; it is not a thing, but a function. In itself, however, mind is incomplete: it requires an object or point of application, and this object is sensation or matter. Former theories of the relation of mind to body made the mistake of supposing that mind could exist more or less independently of body: spiritualism giving mind thorough independence, materialism making mind a product of the body, parallelism positing two coordinate series; whereas in fact mind and body are strictly correlative and inseparable.

The more intimate nature of the mind-body relation is as follows: Two facts which seem incompatible offer the chief difficulty. (*a*) Our thought is conditioned by a special intra-cerebral motion of molecules and atoms; (*b*) but this same thought has no consciousness of the molecular motion, is not directly aware of the nervous impulse. A molecular wave must reach a point in the visual cortex before we see the object in front of the eyes. How is it that consciousness ignores the physiological process upon which it depends, and, as it were, projects itself to the distant object? We must bear in mind that in this molecular wave is carried and implied all that we know of the external object which stimulates it. This nerve vibration represents the work of two factors, it expresses the nature of both the object which provokes it and the nervous apparatus which transmits. One of these factors which modify the nerve vibrations is constant, *i. e.,* the part played by the nervous system; the other is inconstant, varying with the changing external stimulus. We may conceive that consciousness, which maintains itself only in change, ignores the constant factor in the nervous vibration, and is cognizant only of the variable element. We are not, therefore, conscious of the constant presence of the cerebral mechanism, but only of the external object which introduces the element of variety. It is the physical world itself which is transmitted in the nervous system, and consciousness perceives it by the analysis of the nerve vibration.

The discussion of Binet's presentation opens upon the question of his fundamental division of reality. It is pointed out by M. Rauh that the distinction merely of content and activity of consciousness quite ignores the concept of the unconscious. The unconscious is not to be explained as the subliminal, a mere mode of the conscious: it is both the known object and the knowing subject at the time when they are neither known nor knowing. M. Lachelier agrees that there is a mode of existence in which subject and object are not discriminated, but out of which they evolve. This state, however, is not the unconscious, a merely hypothetical condition, but is an 'affective mode,' a 'simple affection,' or 'state of simply living,' an actual known condition which we find persisting in all sensation, perception and thought. Further, certain kinds of sensations and perceptions are more objective than others. In differentiating the subject two sorts of experience are of greatest importance, (*a*) visual, (*b*) perception of resistance: an experience of taste, smell or even sound does not necessarily involve a subject distinct from the sensation, but the perception of a color-arrangement, which presupposes the ability to distinguish the contour of the different colors, implies a subject, or an activity whose unity is contrasted with the multiplicity of the colored surface. As to the perception of resistance, it is through the self's overcoming obstacles that the self becomes defined.

The discussion relative to Binet's theory of the union of mind and body is led by M. Bergson. Bergson takes exception to the idea that external perception occurs 'inside the brain'; he would localize it rather in the object perceived. If we ask, "how can I be in the object which I perceive?" he would reply "how can you be in the brain which perceives it?" The self is no more in the brain than in the object outside. The self exists virtually in everything perceptible, and actually in everything perceived. He says, with Leibnitz, that we have a confused perception of the entire universe, but a distinct perception only of that part of the universe upon which we can exercise an influence more or less immediate. If we ascribe to the physiological process more than the function of limiting practically our actions, *i. e.*, if we make it in any sense the cause of perception, we can not escape the hypothesis of psychophysical parallelism.

M. Darlu objects to the original standpoint of Binet's 'subjective phenomenalism.' By calling facts of consciousness physical, Binet is greatly altering current usage; for, in fixing arbitrarily the point where subjective and objective separate he is destroying the real meaning of the objective. In common speech, and still more in science, we call that the physical element of sensation which we recognize as most objective. The element is physical because it is more independent than all the rest of our will, because we are accustomed to measure it, to calculate upon it, to foresee it.

In the above thesis of M. Binet the points, that the content element of consciousness is for us external reality, that content and function are correlative inseparable aspects of consciousness, and that they constitute a distinction of prime importance, are statements highly interesting and comprehensible, but comprehensible only as giving a psychological standpoint. As a metaphysical theory of the connection between mind and body 'subjective phenomenalism' contains difficulties. The dualism which M. Binet is trying to avoid appears in his own theory at the point where he ascribes to the central nervous system its peculiar function of carrier or supporter of the universe. Differences in nerve-vibration constitute the external world; but what then constitutes the vibrating nerve mass, unless matter and motion are the same? Consciousness discovers external reality by analyzing this molecular motion of the nerve-substance, but if different motions *are* the experience 'green,' 'blue,' 'sweet,' 'hard,' etc., where did we ever get the idea 'molecular motion' as a common substrate for them? What status has a cortical area when it is not functioning? What does it mean to say that consciousness analyzes the nerve-vibration? If everything is either content or act of consciousness, it would seem to mean either that we know the vibration immediately as content of consciousness—which Binet admits we do not, or, it means that the vibration is actually the activity of consciousness. On this latter hypothesis the act of consciousness is reduced to motion of the most materialistic variety.

Again, if act of consciousness and object of consciousness are to stand as the fundamental discrimination in reality, some theory of their correlation must be proposed, unless we are content to accept the Kantian dualism of the *a priori* and *a posteriori.*

The most suggestive contribution to a solution of these problems appears in the criticisms by M. Bergson. For him the subject, or the activity of knowing, is not localized in the brain any more than it is in the whole perceptible universe. What is localized is the practical response to perception. Solicitation to action seems the primal situation within which clear and distinct images emerge; on the other hand, the body, which is the chief instrument in action, is an image among other images or representations. Hence body and mind are interpretative of one another. If this be a just elaboration of M. Bergson's remarks it shows that his point of view is in harmony with other recent doctrines on the psychical-physical question. If one dare generalize, the tendency appears to be to identify the physical with the existential or mechanical aspect of reality, the psychical with the interpretative, teleological aspect. From the view-point of practical necessity the mechanical stands for the past, and the teleological for the future. Such a statement as the last accommodates the point brought forward by Darlu that the physical stands for the commensurable side of experience; for it is the past or accomplished fact which is the basis of calculation, and which is most independent of our will.

A striking omission from the discussions of the Société is the lack of any attempt to discriminate the psychological from the metaphysical standpoint. Indeed, the theory of subjective phenomenalism looks like an effort to erect the psychological attitude into the sole basis for metaphysics. The function of metaphysics would seem to many to include the correlation of the truths of all sciences rather than to adopt the postulates of any special one as final reality. It is out of different phases of metaphysical inquiry that the special standpoints of different sciences have been generated. It becomes any science to cling to its limitations as its special opportunities, and psychology, having finally attained an individual status, would be better engaged in cherishing this golden egg than in bombarding with it the metaphysical goose that laid it.

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Experimentelle Beiträge zu einer Theorie des Denkens. HENRY J. WATT. *Archiv f. d. Gesamte Psychologie,* Band IV., Heft 3. Würzburg. Pp. 289–436.

This is a study of controlled association, a problem beset with many technical difficulties. Belonging to that class of problems whose practical approach is through the direct medium of speech, it is very dependent on the far from satisfactory methods of speech registration as yet available. The apparatus employed in this instance was of the usual form, including drop-screen, break-make relay, chronoscope and voice-key. The handling of this last instrument has been the Achilles' heel in much work done along these lines, nor, with all the careful handling of the remaining apparatus, do its limitations seem to have been fully taken into account. The promptitude with which this instrument registers the reaction varies considerably according to the phonological character of the initial of the reaction-word. A prompt break never occurs save with an initial explosive, and not always then. A more accurate and hardly less cumbersome form of apparatus would have been the Rosapelly laryngeal recorder, with a tambour for the breath stream of voiceless initials, recording on smoked paper.

The forms of association studied are: genus-species, species-genus, between coordinates, part-whole, whole-part, between parts of one whole. On the basis of the subjects' introspection three classes of reaction are noted. In class *A* there is a single movement from stimulus to reaction; and four subtypes are here distinguished, in which, between stimulus and reaction, there appears either a visual image, a word image, a vague hesitation, or nothing appreciable. The last mentioned, which is of rare occurrence, tends to be the shortest, but its other differentia are probably due to habits of imagery, so that it is doubtful whether it really forms a distinct type of association. In classes *B* and *C* the movement from stimulus to reaction is not single. In *B* the intervening element is highly indefinite, in *C* it is a definite object of an unsuccessful search. These tend to be longer than *A*, and *C* longer than *B*.

The proportion of mediate associations is very subject to individual difference, and also varies with the character of the control. A slight tendency to negative correlation in the number of the two types of mediate association seems to exist for all subjects. Phonetic lapses were frequently observed, and the phenomena of persistent association complicated the results to a slight extent. Throughout, however, the psychological limitations of the problem are only too apparent. The numbers of cases are necessarily small, and the mean variations large,